

DIRECT CYLINDER INJECTION-TYPE SPARK IGNITION  
INTERNAL COMBUSTION ENGINE

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ABSTRACT OF THE DISCLOSURE

A direct cylinder injection-type spark ignition  
10 internal combustion engine is disclosed. The engine  
comprises a spark plug, a cavity formed in the top  
surface of a piston, and a fuel injection valve for  
injecting fuel into the cavity in nearly the shape of a  
fan having a relatively small thickness. When the fuel  
15 injected in nearly the shape of a fan from the fuel  
injection valve is considered by being divided into a  
plurality of fuel segments in a radial direction, a side  
wall of the cavity has a first fuel deflection passage  
82a and a second fuel deflection passage 82b for so  
20 deflecting at least two of the plurality of fuel segments  
as to pass near the spark plug. The side wall of the  
cavity is at least partly provided with a return portion  
83 that protrudes toward the inside of the cavity. The  
first fuel deflection passage is not provided with the  
25 return portion 83 or is provided with the return portion  
having a short protrusion, and the second fuel deflection  
passage is provided with the return portion 83 having a  
long protrusion.